Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (withdrawn) A protein comprising a sequence selected from the group consisting of SEQ ID NO:1, a variant of SEQ ID NO:1, SEQ ID NO:4, and a variant of SEQ ID NO:4, wherein the sequence is capable of hydrolyzing sphingomyelin.

2. (withdrawn) The protein according to claim 1, wherein the sequence is capable of hydrolyzing sphingomyelin at pH 7.5-9.

3. (withdrawn) The protein according to claim 1, wherein the sequence has less than 50% of its hydrolysing activity at pH less than 7.5.

4. (withdrawn) The protein according to claim 1, wherein the variant of SEQ ID NO:1 has at least 80% identity with SEQ ID NO:4.

5. (withdrawn) A nucleotide sequence encoding the protein according to claim 1.

6. (withdrawn) The nucleotide sequence according to claim 5, wherein the nucleotide sequence comprises SEQ ID NO: 2 or SEQ ID NO:5.

7. (withdrawn) A recombinant expression and secretion vector, comprising a polynucleotide encoding a secretion signal peptide; a DNA sequence which promotes transcription in a host cell located upstream from the polynucleotide encoding the secretion signal peptide; a DNA sequence encoding a protein according to claim 1 in a translation reading frame with said polynucleotide encoding the secretion signal peptide; and
a transcription terminator sequence located downstream from the DNA sequence encoding said protein.

8. (withdrawn) A host cell comprising the recombinant expression system according to claim 7, wherein the host cell expresses Alk-Smase.

9. (withdrawn) The host cell according to claim 8, wherein the host cell is selected from the group consisting of a bacteria, a mammalian cell and a yeast cell; and in the absence of the recombinant expression system according to claim 7, the host cell does not normally produce an Alk-Smase.

10. (withdrawn) A method for isolation of human Alk-Smase protein, the method comprising the steps of providing a small intestinal or colon content from a human; homogenizing the small intestinal or colon content; purifying Alk-Smase from the homogenized content using DEAE Sephadex chromatography; purifying the Alk-Smase using Uno anion exchange chromatography; purifying the Alk-Smase using Uno anion exchange chromatography; and purifying the Alk-Smase using hydrophobic exchange chromatography, thereby isolating the human Alk-Smase protein.

11. (withdrawn) A method for preparation of recombinant Alk-Smase protein capable of hydrolysing sphingomyelin, the method comprising the steps of; providing a host cell according to claim 8 and a host cell growth medium; preparing a host cell culture; culturing the host cell culture; and harvesting the host cell culture and recovering the human recombinant Alk-Smase.

12. (withdrawn) The method according to claim 11, wherein the Alk-Smase protein is recovered from the culture medium or the host cells.

13. (withdrawn) An isolated Alk-Smase protein, comprising the protein according to claim 1, wherein the protein has an active site with the amino acid sequence AFVTMTSPCHFTLVTGKY (SEQ ID NO:3) or a variant thereof.

14. (withdrawn) A composition comprising a protein according to claim 1; and a biocompatible carrier or additive.

15. (currently amended) A method for treating colon cancer, comprising: administering to a patient a composition comprising at least one of:

a protein ~~according to claim 4,~~ comprising a sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:4, a variant of SEQ ID NO:1,and a variant of SEQ ID NO:4, wherein the sequence is capable of hydrolyzing sphingomyelin; and further wherein the variant of SEQ ID NO:1 has at least 80% identity with SEQ ID NO:1 and the variant of SEQ ID NO:4 has at least 80% identity with SEQ ID NO:4;

~~a nucleic acid according to claim 5,~~

and an isolated Alk-Smase ~~according to claim 12 to a patient~~; wherein the Alk-Smase comprises said protein and further comprises an active site with the amino acid sequence AFVTMTSPCHFTLVTGKY (SEQ ID NO:3).

16. (withdrawn) A kit comprising: the protein according to claim 1 or the isolated protein according to claim 13; and a stabiliser.

17. (withdrawn) The kit according to claim 16, wherein the protein is in a lyophilised form or freeze-dried form.

18. (withdrawn) The method according to claim 12, wherein the Alk-Smase protein is recovered after separating the host cells from the culture medium.

19. (withdrawn) A composition comprising: a nucleic acid according to claim 5; and a biocompatible carrier or additive.

20. (withdrawn) A composition, comprising: an isolated Alk-Smase according to claim 12; and a biocompatible carrier or additive.

21. (new) A method comprising: administering to a patient a composition comprising at least one of:

a protein comprising a sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:4, a variant of SEQ ID NO:1, and a variant of SEQ ID NO:4, wherein the sequence is capable of hydrolyzing sphingomyelin and further wherein the variant of SEQ ID NO:1 has at least 80% identity with SEQ ID NO:1 and the variant of SEQ ID NO:4 has at least 80% identity with SEQ ID NO:4; and

an isolated Alk-Smase; wherein the Alk-Smase comprises said protein and further comprises an active site with the amino acid sequence AFVTMTSPCHFTLVTGKY (SEQ ID NO:3).

22. (new) The method according to claim 21, wherein the method is for treating colon cancer in the patient.

23. (new) The method according to claim 21, wherein the method is for treating inflammation in the patient.